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ABSTRACT

Parent Cooperative Preschool, designed to provide experiences tailored to the children enrolled, teaches specific skills the children will need when they begin informal schooling, and develops parent-child relationships which will sustain motivation once the child enters public school. The preschool operates on the premise that these goals can be achieved and that important changes in parent-child interactions can be developed if both parent and child have the opportunity to work in a specially designed environment. The Coop provides a setting which enables parents to acquire skills in preschool teaching, to focus their interests on the day-by-day education of their children, and to assume responsibility for the operation of the program. Included in this report are brief descriptions of the program, program evaluation, the demonstration plan and staff organization. More than half of the report consists of appendices which include the articles: "Program Description-Behavior Analysis Classroom;" "A Token Manual for Behavior Analysis Classrooms;" and "Adult Verbal Control of Children's Non-Verbal Behavior". (Author/MS)

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JUNIPER GARDENS PARENT COOPERATIVE PRESCHOOL

CG-8474

FINAL REPORT

Submitted to: Office of Economic Opportunity
Office of Planning, Research and Evaluation
Research Division

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JUNIPER GARDENS PARENT COOPERATIVE PRESCHOOL
1970-1971

Introduction

This application is for funds to support the Juniper Gardens Parent Cooperative Research and Demonstration Project for its fourth complete year. During the past three years, staff members and residents of the community have demonstrated that the concept of a parent-operated Head Start program is viable in the setting of the Juniper Gardens public housing project and that it is a model which can and is being used in Head Start programs in other communities.

In harmony with the National Head Start program, the objectives of the Parent Cooperative Preschool are based on the concept that the confrontation between the poverty area child and the school may be a meeting of two cultures which is disastrous for both. The conflict in this confrontation is based on these factors:

1. Children of poverty areas have experiential deficits when they enter schools which are designed to meet the needs and learning histories of middle-class children. Thus, even at the preschool level, the poor child is exposed to experiences and is taught with procedures developed for, and appropriate for, another population.
2. The typical first grade program assumes the existence of values and specific skills which may be alien to low-income children.

3. Because of differing parent-child relationships and interactions, reinforcers which sustain the motivation of suburban middle-class children are often not effective with poverty area children.

The Parent Cooperative Preschool and the Planned Variation Program Head Start Centers are designed to overcome the disadvantages these factors place upon children from deprived areas. Specifically, they are designed to:

1. Provide experiences and procedures tailored to the children enrolled.
2. Teach the specific skills which the children will need when they begin formal schooling.
3. Develop parent-child relationships which will build reinforcement histories to sustain motivation once the child enters the public school classroom.

The preschool operates on the premise that these goals can be achieved and that important changes in parent-child interactions can be developed if both parent and child have the opportunity to work in a specially designed environment. In partnership with professionals, parents can play key roles in bringing about substantial improvement in the learning experiences of their children as they themselves learn to use well-programmed materials and positive social reinforcement. The Coop provides a setting which enables parents to acquire skills in preschool teaching, to focus their interests on the day-by-day education of their children, and to assume responsibility for the operation of the program.

In addition to providing training for parents and children, the Parent Coop provides professional training opportunities for university graduate students. This includes the development of research skills. As described elsewhere in the proposal, this training has resulted in dissertation research, the presentation of papers at national professional conventions,

and publications.

The Parent Cooperative Preschool is primarily a demonstration project. Therefore, one of its major functions is to provide opportunities for others to learn of the methods and procedures being used. As described more fully later in the proposal, professionals, students, and lay people from all over the nation have visited the project to gain first-hand knowledge of its procedures and its applicability to their own situations. The development of motion picture films, reports to professional groups, and publications have also contributed to the demonstration function.

Most importantly, five hundred Head Start children in six centers have directly benefitted from the Coop model. These centers, participating in the Planned Variation Program, have sent staff members to the Coop for training. The trainees then have returned to their home locations and implemented the procedures used at the Coop. The effects of the training which can be seen at this point and the relationship between PVP and the Coop will be explained in greater detail later in the proposal.

The main body of the proposal which follows describes the Juniper Gardens preschool education program, the parent training program, the research and evaluation procedures, the demonstration plan to be followed and the staff organization and resources available for the coming year.

The Preschool Education and Parent Training Program

A. Behavioral Objectives

Two classes of pupil behavior are targets for the manipulative procedures outlined in this proposal. The two classes may be termed "academic" and "social." The Head Start classroom, as an institution, exists because of observed preacademic deficiencies. Specifically, deficits (i.e., below

the normative standards of the comparable middle class child) exist in preacademic skill areas such as language, number concepts, and reading readiness. Skills in object identification, narration, counting, classifying, discriminating symbols, and seriating are illustrative of those which our procedures are designed to develop.

Social behaviors identified for development include cooperating with other children, distinguishing between times to compete and times to cooperate, following instructions, and acting with increasing independence.

Target behaviors in parents are those which in aggregate describe an effective teacher. Specifically, the parents are taught to observe and record specific instances of carefully defined child behaviors; they are taught tutoring skills; they are taught group management procedures which allow them to direct the activities of a group of children. They are taught work skills including punctuality, low absenteeism, assumption of planning responsibilities, and the training of other parents.

B. Hypotheses

The procedures used in the Parent Coop to achieve these behavioral objectives are based on the following empirical generalizations:

1. Behavioral acquisitions are accelerated as a function of the frequency of contingent reinforcement.
2. Motivation to sustain academic activity increases as a function of the amount of reinforcement associated with that activity.
3. Academic achievement increases as the probability of making erroneous responses decreases.
4. The probability of erroneous responding decreases as effective prompting and fading procedures are increased.
5. Aversive or punitive child management techniques decrease as a

function of a parent's skill in utilizing positive, contingent reinforcement.

6. Parental interest in and support of the academic achievement of their children increases as a function of their familiarity with and participation in the formal educational process.

C. The Curriculum

During the past year there has been an increased emphasis placed on engaging the children in a variety of preacademic and academic activities (rhyming, visual discrimination, printing, improving listening skills, basic arithmetic skills). This academic emphasis occurred partly in response to the wishes of the parents themselves. While they appreciated the utility of the more traditional preschool regimen focusing on development of cooperative play and other social skills, they were eager to provide their children with specific academic skills in order to improve their chances for success in public schools.

Curriculum materials were selected which:

1. describe the behavior the child will be capable of at the end of the sequence,
2. require frequent responding by the child,
3. contain clear criteria for a "correct" response,
4. allow for individual rates of progress, and
5. provide for periodic testing of achievement gains.

The children were divided into three small groups. At different times during the morning, each group received instruction in reading, handwriting and math. For example, at 9:00 Group A had reading, Group B had handwriting, Group C had math; at 10:00 Group A had math, Group B had reading, Group C had handwriting, etc. The materials used were: reading - McGraw Hill:

Sullivan Programmed series; handwriting - Behavior Analysis Handwriting Primer and Lyons and Carnahan: Write :n: See Series; math - Random House: Suppe series and Addison Wesley. Detailed records of the children's performance were kept and will be discussed in the evaluation section.

To support the academic emphasis, the token system was initiated and proved effective in providing increased incentive for engaging in academic oriented activities.

D. The Training Program

Appropriate teaching includes the immediate delivery of praise and a token contingent upon a correct or improved response, and prompting effectively. Thus, positive reinforcement is used to build improved behavior and an attempt is made to eliminate all coercive or negative control procedures. Observation categories which will result in precise measurement of parents' teaching behavior when they start at the Coop and after several weeks of training are being developed in conjunction with the Planned Variation Program.

Parents begin their six weeks of work with a short lecture by Barbara Hughes, Coop Head Teacher, who is a member of the Juniper Gardens community. Besides a brief explanation of the overall daily schedule and procedures, each mother receives a copy of her own schedule for each day. She then works in one of the academic areas under the close supervision of a staff member. Also there is frequent discussion of the children's progress records. Each mother also receives coaching on tutoring individual children and works in a token back-up area.

Each mother learns the mechanics of using tokens, setting prices and trading, becoming more proficient during later six week periods.

Program Evaluation

Several dimensions of evaluation will be used during the coming year. In most cases, the evaluation procedures are extensions of those used during the current year.

A. Assessment of Procedures

Experimental analyses are now underway which will provide a stronger empirical basis for determining the strengths and limitations of several Coop procedures. Investigation is continuing on the effects of praise in the tutorial situation while holding instructions and other discriminative stimuli constant. Results from 1968-69 (Figure 1) indicated that praise effectively increased correct responses across different teachers, children, and materials. Results from 1969-70 (Figure 2) confirm this finding.

In another study, Chuck Pierce, a University of Kansas graduate student, has demonstrated that children's free play activities which occurred 22 hours later were controlled by an adult's verbal behavior. An analysis of his results indicated the discriminative stimulus properties of the adult's verbal behavior was a critical variable controlling the children's nonverbal play behavior.

The Coop is not simply demonstrating an established set of static procedures. The methods of instruction and training have been evolving through the three years of the program. They will continue to do so as further empirical evidence is acquired about the effects of new procedures.

B. Assessment of Group Performance Changes

Several pre- and post-measures of performance have been a standard element of the Coop program since its inception. Peabody Picture Vocabulary tests are administered at the beginning and end of each school year.

In 1969-1970 Wide Range Achievement Tests and Caldwell Preschool Inventories were also administered. The scores of a matched group of Head Start children from other centers in Kansas City, Kansas are being compared to the scores of the Coop children in order to assess the differential effects of the Coop procedures. The post-test measures have not as yet been completed for the current year, however, even greater gains than those seen last year on the Peabody are expected due to the more highly academic orientation of this year's program.

C. Assessments of Individual Performance Changes

At the beginning of each year's program each child is given a locally developed test which assesses specific entry behaviors along a number of dimensions including: color discrimination, color naming, object identification, symbol matching, number sequences recitation (1-10 and 5-10), counting objects, left-right discrimination, relative position identification, biographical information and several others. The results of this entry inventory determine the various points at which individualized instruction sequences will be initiated for each child. The entry inventory instrument has been constructed to require very little instruction. It can be reliably administered by a parent who is new to the program.

Daily records are kept of the total number of responses and the number of correct responses each child makes properly. This allows teachers to assess the performance of the children and to correct problems shortly after they begin. These records have proved valuable in reorganizing material until it is in the optimum sequence for rapid progress, with minimum errors.

Weekly progress reports give a graphic picture of progress and help point out individual children who are not progressing. Teaching staff members all use

Figure 1

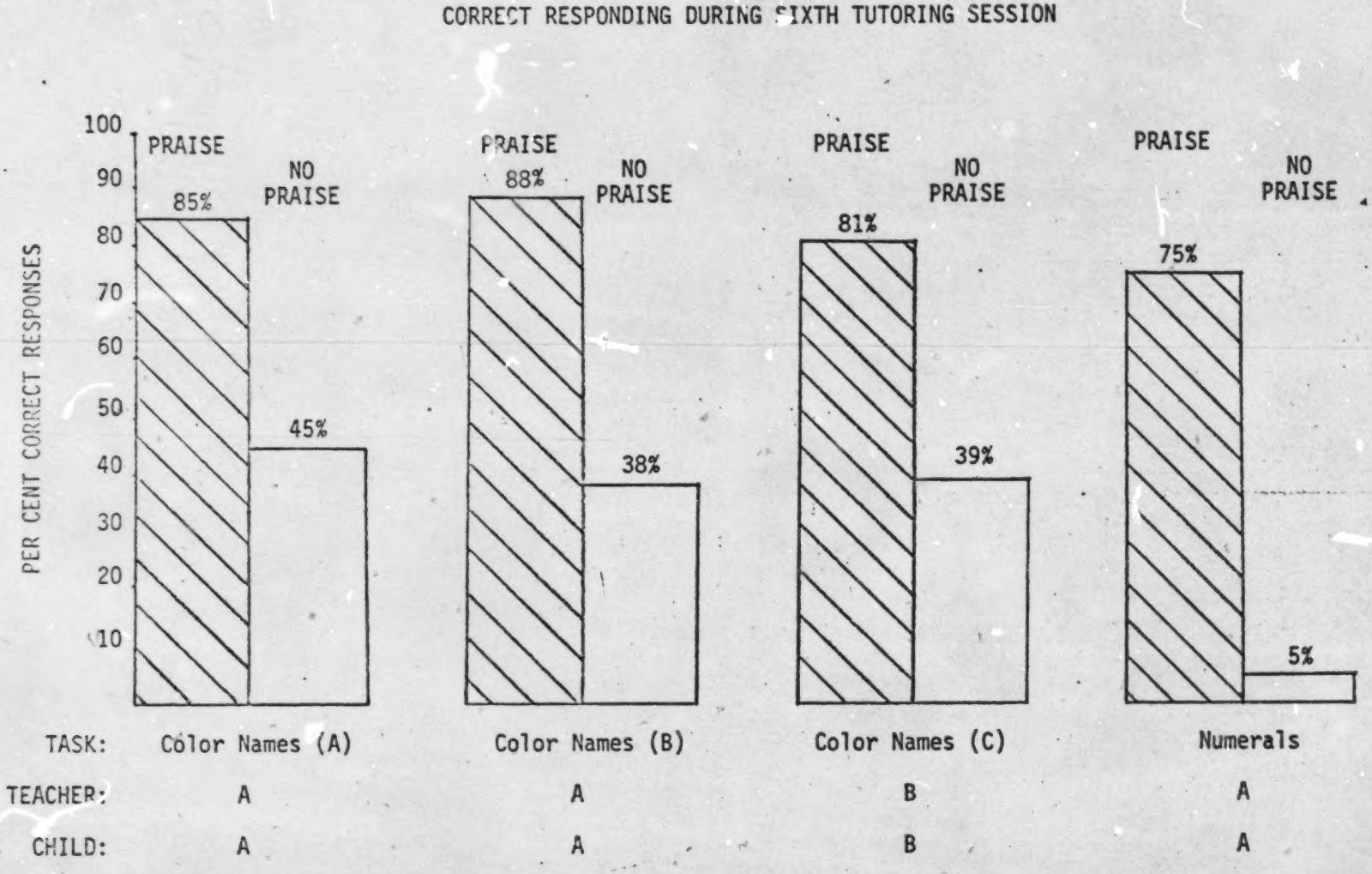
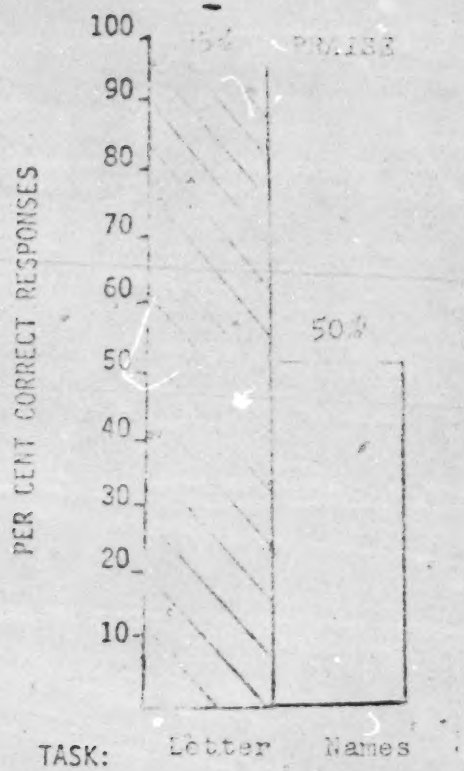

CORRECT RESPONDING DURING SIXTH TUTORING SESSION
PER CENT CORRECT RESPONSES
100
90
80
70
60
50
40
30
20
10
PRAISE
NO PRAISE
85%
45%
88%
38%
81%
39%
75%
5%
TASK:
Color Names (A)
Color Names (B)
Color Names (C)
Numerals
TEACHER:
A
A
B
A
CHILD:
A
A
B
A

Figure 2

CORRECT RESPONDING DURING SIXTH TUTORING SESSION



progress records for reading, handwriting and math which are made up from the weekly reports.

A third source of information for the staff is plotted cumulative child hours of formal instruction. These help teachers see if their instructional time remains fairly constant from week to week. Also the time spent during each week can be compared to the amount of progress made by the children that week.

The Demonstration Plan

The Juniper Gardens Parent Cooperative Preschool is a demonstration project in three contexts. First, as described in the preceding section, it demonstrates the applicability of learning theory principles to a training program for parents and their children in Head Start type classes. Secondly, it functions as a training center for demonstrating procedures to be used in Planned Variation Program centers. Third, it provides a setting for demonstrating the program and procedures to local, regional and national audiences.

The Juniper Gardens setting affords some unique advantages as a center equipped to carry out demonstration activities in the third context since it is favorably located and it is affiliated with the University of Kansas.

The role of the Coop as a training center for the Planned Variation Program classes served a very important function. Eighteen different delegates--nine from the Hopi classes and nine from Portageville, Missouri--participated in the three-day training sessions starting in October and continuing into March covering the entire spectrum of duties. Each representative actively participated in learning:

- appropriate teaching skills,
- utilization of curriculum materials,

- tutoring procedures, and
- parent training procedures.

It should be noted that all the materials and techinques used in Planned Variation Program were first implemented at the Coop. The Coop, then, truly serves a primary function for PVP classes by field-testing materials as well as techniques and by functioning as a training center for the acquisition of these techniques.

The effects of the Coop training are dramatic. Each PVP teacher, upon return to her own class, patterned her class directly after the model provided by the Coop.

A. Favorable Location

1. Local: The Juniper Gardens Coop Preschool is located in the community building of the Juniper Gardens Housing Project. Many of the parents and children who participate in the preschool live in the housing project, others live within a short distance of the community building. This location in the heart of the area being served makes it possible for parent involvement and allows maximum community visibility and participation. Members of the immediate community are able to visit the Coop and are well aware of the program.

The location of the project in the center of the Kansas City metropolitan area has made it possible for many local visitors to view the Coop in operation. An open house was held the evening of May 4 both for parents of children currently in the program and to recruit for next year. The children demonstrated some of the academic skills they have learned this year and the film, "How to Use Tokens in Teaching" was shown. This training film featuring Barbara Hughes and one of the children from the Coop will soon be available for use in other Head Start and Follow Through training programs.

Mr. Owens, Demonstration Coordinator, in addition to arranging numerous visits of groups and individuals also has been working with the Board of Directors of the Northeast Action Group to help the group reorganize the local Head Start program which is currently being run by the school board. The Action Group will sponsor the Head Start program next year and will make changes in the program to include more parents as teachers and assistant teachers.

Local visitors are listed below:

Mrs. Kreuger and students from the School of Education, University of Kansas,

Dr. Robert Ridgway and students from the School of Education, University of Kansas,

Linda Fisher, Kansas University Medical Center,

Josephone Poellnitz, Head Start, Kansas City, Kansas,

Charleszine Edwards, Home Economics, Head Start, Kansas City, Kansas,

Aivilda Sallard, Head Start Programmer, Kansas City, Kansas,

Barbara Jordan, Head Start Social Worker, Kansas City, Kansas,

Students from School of Nursing, Kansas University Medical Center,

Board of Directors, Northeast Action Group, Inc., Kansas City, Kansas,

Students from University of Missiouri at Kansas City, and

Phil Gary, Assistant to the Chancellor for Urban Affairs, University of Kansas.

2. Regional: The project's regional location places it in proximity to two major universities and numerous colleges. Head Start and other projects concerned with parent-child interactions located in the Midwest also find the Coop accessible for visits. Large classes in education from the University of Kansas and from the University of Missouri at Kansas City make regular visits to the project. Smaller groups of students in educational psychology, speech

and hearing, psychology, human development and special education have visited from the Univeristy of Kansas Medical Center and other area colleges and univeresities.

Regional visitors include:

Gerard Bensberg, University of Alabama,

Charles Herron, University of Alabama,

Steve Willard, University of Alabama,

R.E. Allison, University of Alabama,

Sandy Raymore, Parsons State Hospital and Training Center, Parsons, Kansas,

Mary Nell Glacier, Parsons State Hospital and Training Center, Parsons, Kansas,

Shirley Berger, Parsons State Hospital and Training Center, Parsons, Kansas,

Dr. Vance Cotter, Parsons State Hospital and Training Center, Parsons, Kansas,

Gary and Barb Lammers, Missouri University,

Mrs. Weir, Speech Clinician, Salina, Kansas,

Miss Roxie Warr, Missouri University,

Miss Judy Brandis, Missouri University,

Miss Gladys Bright, Topeka, Kansas, and

Dr. James O. Smith, Missouri University.

3. National: The fact that Kansas City, Kansas is located in the center of the nation makes it possible for persons from all over the country to visit the Coop. Among those national and international guests who have visited in the current year are these persons:

Dr. Sidney Rosenblum, University of Mexico,

Mrs. Ellen Spengler, Model Cities Agency, Albuquerque, New Mexico,

Dr. Wells Hively, Minnesota University,

Miss Mary Lou Rush, Middletown, Connecticut,

Miss Louise Butts, Middletown, Connecticut,

Professor Prisciliano Barros, Costa Rica, Central America,

Professor Ovideo Soto, Costa Rica, Central America,

Professor Rene Voquerana, Costa Rica, Central America,

Dr. John Helwig, San Salvador,

Dr. David L. Jafte, Chief Bio-Medical Division, NICHHD,

Dr. Art Coleman, Psychiatrist, Walter Reed Hospital,

Margaret Gapo, Teacher, Toronto, Ontario

Joan Bowrb, Provincial Supervisor, Toronto, Ontario

Steve Forness, Neuro Psychiatric Institute, UCLA Medical Center,

Donley Moor, St. Josephs Hospital, Rosewell, Scotland,

Dr. Chris Kiernan, Bevesbeck College, University of London, London, England

Dr. Donald Green, Institute of Behavior Research, Washington, D.C.

Eloisa de Lorenzo, University of Montevideo, Montevideo, Uruguay, and

Dr. C. Corbett, University of London, London, England

B. Affiliation with the University of Kansas

1. Training and Demonstration. In addition to its favorable location, the project's affiliation with the University of Kansas plays a role in making it effective as a demonstration center. The project is co-sponsored by the University of Kansas Bureau of Child Research and the University of Kansas Department of Human Development and Family Life. This affiliation makes it possible for numerous students to receive professional training at the Coop. Joseph Lachowicz, a Ph.D. student, conducted the research for his dissertation at the Coop during 1969-70. Chuck Pierce, another Ph.D. student, will be

presenting a paper at the American Psychological Association meeting in September, 1970 which describes work he did at the Coop.

The Bureau of Child Research sponsors many programs which enhance demonstration opportunities. Bureau sponsored programs include the Center for Research in Mental Retardation and Human Development at Lawrence, Parsons, and the University of Kansas Medical Center. The Department of Human Development sponsors the University of Kansas Research Preschool and a Center for Research in Early Childhood Education. Many persons who are attracted to this area to observe these other programs include Juniper Gardens on their itinerary. Since the project is a part of the University of Kansas, the Bureau of Child Research, the Department of Human Development and the Juniper Gardens Children's Project, it can call on the resources of these agencies for consultation and to assist in demonstration functions.

2. Research and Demonstration Film Production. Not the least of the University support is the availability of a professional cinematography staff. Under the direction of Mr. Robert Hoyt, the Bureau of Child Research produced Spearhead at Juniper Gardens which has been seen by an estimated 35,000 people at last count. The six prints distributed by the KU Bureau of Visual Instruction are always booked several months in advance. Spearhead has been shown to civic groups and professional audiences across the nation, including showings at national conventions such as the Council for Exceptional Children and the AAMD. It is also in demand for Head Start, Follow Through, and other workshops concerned with involving parents in the training of their children, and in college psychology classes.

The availability of excess federal camera equipment through OEO authorization has made a significant contribution to the demonstration and dissemination of

research and training information originating in this project.

As a consequence of our developmental efforts, the use of audio-visual materials is now a standard procedure for many of our researchers who are called upon to demonstrate their work. The first major film of the Kansas Center for Mental Retardation and Human Development, Spearhead, was made in the Juniper Gardens Children's Project. Since that time several other films have been completed. Others are now in production. We have found films to be truly effective in helping meet the continuing demand for information about our work.

The development and dissemination of the products and procedures of research presents a major problem to clinicians and researchers and their consumers. They must somehow meet an obligation to share the results of their study as quickly and as clearly as possible. Colleagues and specifically concerned lay persons must interpret the results of the work in terms which are meaningful and utilitarian to the problems they face in similar work. It is a long and often difficult task for a scientist to shape his results into a presentable and translatable format. Adding to this problem is the time lag in the usual presentation media--the channels of professional publication. Proposed articles must be read and reviewed by specialists. Editors must then evaluate the criticisms and decide whether to accept, reject, or make recommendations for revisions. Articles are often submitted to several journals, multiplying this time factor. There is a significant lag between the acceptance and the appearance of a professional article. And last but not least, the "practical" value of such articles is open to question, since communication is often a secondary consideration in the purpose of these reports. Many articles containing significant findings are obscurely written and over-qualified. At best, printed publications can

hardly be called dynamic when compared to audiovisual media presentation. Since some form of printed publication is essential to most research and development, such work is necessary. However, such printed communication must be communicative and an adjunct component of a programmed dissemination process.

The diversified use of motion picture photography and video tape has been increasing steadily for the past several years. They are now accepted media for all manner of communication needs, from public relations, formats for instruction, research reporting, instrumentation, and documentation. Like the university press, university film and tape production units are being called upon to publish faculty contributions to the body of scientific knowledge. We are already immersed in an audiovisual revolution. Advances such as this in technology need be put to work for the researcher and the clinician.

It is obvious that scientists cannot focus their attention on hardware, software, achieving standards, securing support, solving administrative problems, or any one of many other significant problems. Often they are so immersed in their own "problem" they cannot define an instructional or communicative goal for its "solution." These things require specialists and specialists are beginning to be recognized as integral to these functions, leaving the researcher and the clinician to concentrate on children, on principles of behavior, on research design, and on interpersonal relations. This same concept must be applied to demonstration, instruction, and dissemination. Freed of such chores, the researcher and clinician can adjust to a changing climate and employ his unique skills as a member of a team to plan programs and systems which are intrinsic to any research or training program.

A training film, Teaching with Tokens, was finished in the spring of 1970 and features Barbara Hughes, head teacher at the Coop, and one of the children

from the Coop. It is expected that this film will be widely used as an introduction to parents who are going to work in the Head Start and Follow Through classrooms. One print of the film will be distributed to each Follow Through district using the Kansas model. The present application contains fund requests for the development of additional demonstration and training films.

3. Presentations and Printed Reports. Related to the filmed reports of procedures used at Juniper Gardens are research presentations and publications. In addition to the earlier published report of the Parent Coop research by Todd Risley which appeared in Psychology Today, an article by Jacobson, Bushell, and Risley (Appendix A) has been published in the Journal of Applied Behavior Analysis.

Formal papers were also presented at the American Educational Research Association Meeting in Minneapolis and the American Psychological Association Meeting in Washington, D.C.. In addition, workshop presentations were made by Dr. Hall and/or Dr. Bushell in Kansas City, Missouri to the Missouri Association for Children with Learning Disabilities, Champaign, Illinois to the Adler Zone Center Staff, Napa, California at the San Fransisco State Behavior Modification Workshop, Hot Springs, Arkansas at the State Workshop in Special Education, Albuquerque, New Mexico Workshop for the Model Cities Kindergarten Teachers, Jackson, Mississippi Workshop for Teachers, Principals and Administrators, Denver University Workshop in Special Education.

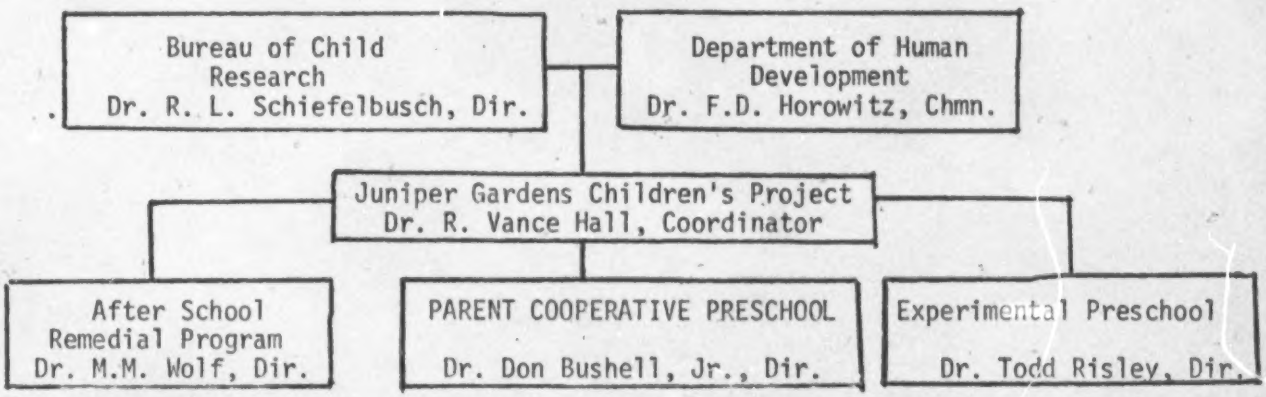
A large facet of the demonstration function of the Parent Coop relates directly to Dr. Bushell's role as a sponsor for Follow Through and Head Start programs throughout the country.

During the past two years the parent training procedures first explored in the Coop have been adopted in 120 Follow Through and 11 Head Start classrooms throughout the country. The program description (Appendix B) of

procedures used with these 5,000 elementary and 500 Head Start children gives clear evidence of the influence of Coop procedures. Also A Token Manual for Behavior Analysis Classrooms, which ties in with the earlier mentioned training film, was essentially designed from Coop lessons (see Appendix C).

Staff Organization

The Parent Cooperative Preschool is one of a group of closely related projects which, in aggregate, constitute the Juniper Gardens Children's Project. The Project as a whole is a cooperative effort of the Bureau of Child Research and the Department of Human Development of the University of Kansas. The project enjoys the active participation of behavioral scientists, a social worker, health consultants, trained teachers, and an effective community organization known as NAG, the Northeast Action Group. The formal organization within which the Cooperative operates, however, has the following appearance.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Dr. M.M. Wolf, Dir.
PARENT COOPERATIVE PRESCHOOL
Dr. Don Bushell, Jr., Dir.
Experimental Preschool
Dr. Todd Risley, Dir.

A. Administrative Staff

Dr. Richard Schiefelbusch, Director of the Bureau of Child Research, is the Project Director. Co-Directors of the Project are the Coordinator of the Juniper Gardens Children's Project, Dr. R. Vance Hall, and the Director of the Coop Preschool, Dr. Don Bushell, Jr.

B. The Preschool Staff

The preschool staff will include a Training Coordinator and a graduate research assistant, both of whom will aid with the research and training.

The full responsibilities of a head teacher (planning, scheduling, buying, coordinating activities, and conducting each day's session) are assumed by Mrs. Barbara Hughes who began with the program as a parent volunteer. She, in turn, has undertaken to develop similar management skills in parents in the program. Two assistant teachers, one who was also a parent volunteer and joined the staff in 1969, will aid in the preparation of materials and training of the parents.

The mothers in the Parent Coop training program comprise the basic staff for the educational program. As a part of their training as staff members an investigation was conducted into the feasibility and the effects of rewarding parent participation with incentive bonuses. Preliminary results of this practice are encouraging. They strongly indicate that it should be continued and submitted to systematic analysis. Token payment is also proposed for attendance at after-school inservice meetings. These will provide special training in the use of curriculum materials, procedures for behavior modification (both in the classroom and at home), and program management.

Special incentives are also proposed to encourage members of the staff to continue or resume their academic training. On a very small scale, this aspect of the program is identical to the contract work which is being done for Head Start by EPI. The basic difference is that bonuses will be awarded immediately upon the successful completion of course work at a college or university, or for acquiring a GED certificate.

C. Demonstration Staff

Demonstration activities have been handled by Uriel Owens, Demonstration Coordinator, who has scheduled all visitors, arranged for showings of the film, Spearhead at Juniper Gardens, coordinated speaking engagements, assumed numerous administrative responsibilities including budget management, and acted as liaison between the project and the community. In the latter capacity, Mr. Owens meets with the Advisory Board of the local Neighborhood Action Group. Mr. Owens also coordinated production of audio-visual materials, working closely with Mr. Robert Hoyt and Mr. Robert Gardner of the Bureau of Child Research film staff.

Physical Facilities

The Parent Cooperative Preschool is conducted in the large (2,900 square feet) multi-purpose room of the Juniper Gardens Community Center building at 1979 North Third Street, Kansas City, Kansas. Collapsible partitions and boo[illegible] are used to divide the multi-purpose room into various activity and teaching areas. These are designed so that they can be easily stored at the end of each day's session so that they do not interfere with other community programs. These facilities are available each weekday morning except the first Thursday of each month throughout the year. Office and work spaces are available for teachers to prepare materials and transact the business of the preschool in the same building. Additional space for administrative and secretarial offices is located nearby at 2021 North Third Street. Bureau of Child Research and Department of Human Development Offices are located in New Haworth Hall on the University of Kansas campus in Lawrence, Kansas.

APPENDIX A

SWITCHING REQUIREMENTS IN A HEAD START CLASSROOM

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APPENDIX B

PROGRAM DESCRIPTION: BEHAVIOR ANALYSIS CLASSROOM

THE BEHAVIOR ANALYSIS CLASSROOM

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INTRODUCTION

Behavior Analysis is a new strategy for education. During the past five years, it has grown from a handful of experimental settings to hundreds of elementary classrooms throughout the nation. Successful Behavior Analysis classrooms have begun to transform the learning experiences of thousands of children. In the rural south, the industrial northeast, the urban midwest, and on Indian reservations in the west and southwest, children are learning more, with greater enjoyment and confidence than has been possible in the past.

Behavior Analysis combines familiar educational techniques in a unique way to provide a new kind of learning opportunity for young children. The program includes aspects of team teaching, non-graded classrooms, programmed instruction, individualized teaching, and token reinforcement systems. The result is a education system which--

- *accelerates the learning and achievement of the children,*

  and

- *unites professional educators, para-professionals, and parents in the teaching process.*

There is no mystery connected with this new system. The basic principles of human learning have been understood for some time. Behavior Analysis has taken these principles out of the laboratory classroom and put them to work in schools.

As an instructional system, Behavior Analysis follows a standard but flexible pattern. The first step, whether the child is being taught social or academic skills, is to *define an instructional objective.* The goals of teaching a child to say "Good morning" when he enters the classroom, or to put materials away when he is finished with them, are just as legitimate as instructional objectives in reading and mathematics.

The second step in Behavior Analysis is to *determine how much the child already knows* about what you are trying to teach. The skills which children bring into the classroom vary so much that it is not realistic to begin everyone in the same lesson. A special Entry Behavior Inventory and diagnostic tests help a teacher decide where each individual child needs to begin working in the sequence leading to several instructional objectives in academic areas. At higher levels of achievement, these diagnostic tests are imbedded in the materials to insure that each child is mastering each instructional objective before being moved on to the next part of the sequence.

With an established instructional objective and knowledge of a child's current skill in relation to that objective, the steps between can be taught more easily if the child is well motivated to learn.

MOTIVATION: THE TOKEN ECONOMY

Behavior Analysis assumes that "motivation" does not just happen--*it is taught.* It is the result of carefully executed procedures which provide the incentives needed to guarantee that a child will begin and

carry through on learning tasks. There are many potential incentives present in every classroom. The smiles and praise of a teacher, the chance to participate in recess and games with classmates, stories, attractive materials, and the chance to select a particular favorite activity can all be good incentives if properly used.

When activities the children prefer are available as a direct consequence of a particular behavior, they are valuable incentives, or reinforcers, which can generate and sustain motivation and progress. If these same activities are available automatically, regardless of what the child may do, they have very little incentive value. The timing of the consequence and its clear relationship to a particular behavior make a crucial difference. When praise *immediately* follows a child's behavior, it will usually reinforce, or strengthen, that behavior. If it comes too soon or too late it will have little or no effect--*timing is the key*.

Because many reinforcing events are hard to deliver with the necessary immediacy, Behavior Analysis classrooms use a Token Exchange System to sustain a high level of motivation. As each child in the class works at various learning tasks, he is given tokens for his progress and improvement. Later, after he has accumulated several tokens in this way, he has the opportunity to exchange them for events and activities which are important to him. These back-up activities give meaning and value to the tokens. As long as the back-ups are exciting and enjoyable, the tokens will support the child's motivation to learn and to succeed.

Tokens, in addition to being properly timed, must be delivered frequently to be most effective. When a child is faced with a new and difficult

task, tokens are given often for small amounts of progress. At a later stage, as the child's skill improves, fewer tokens are needed to support progress. Consequently, the way a child earns tokens is constantly changing. At first, tokens and praise will follow a child's first attempt at holding a pencil correctly. Later, as skill increases, the tokens and praise will follow the writing of a complete sentence.

THE CLASSROOM STAFF AND THE PARENT PROGRAM

The requirement of frequent attention and reinforcement for each individual child is difficult, if not impossible, for one teacher who must deal with an entire class of thirty or more children. To provide the necessary amount of individual attention, Behavior Analysis classrooms are staffed by four adults. The lead teacher heads the team and generally takes special responsibility for reading instruction. The full-time aide usually takes special responsibility for the small math groups; and two parent aides concentrate on handwriting and spelling lessons and individual tutoring. This kind of team arrangement insures that every child receives the personal attention and reinforcement needed for him to learn at his maximum rate.

A program of parent participation is one of the key factors in the success of the Behavior Analysis approach. With proper training, the parents have become valued instructors in the classroom. Without them it would not be possible for the lead teacher and aide to enjoy the advantages of small group teaching. Parents who have worked in the classroom

are also extending the benefits of the program into the home situation. With an understanding of classroom process and the principles of positive reinforcement, the parents are able to join professional teachers as partners in the education of the community's children.

Parents are employed in the classroom in a series of positions which provide improved career opportunities. During the first year, a parent serves for six to eight weeks in the classroom as a trainee. This relatively short work period enables a large number of parents to have direct contact with the program. At the next level, some parents who have been trainees are employed as aides for an entire semester. Finally, some of those who have been semester aides are employed to fill full-time positions as teacher aides. The result of this sequence is a new kind of unity between school and community, a new set of opportunities for parents, and a new potential for truly individualized classroom instruction.

THE CURRICULUM

To take advantage of these new opportunities, Behavior Analysis classrooms select curriculum materials that:

1. *describe the behavior the child will be capable of at the end of the sequence,*
2. *require frequent responding by the child,*
3. *contain clear criteria for a "correct" response,*
4. *allow for individual rates of progress, and*
5. *provide for periodic testing of achievement gains.*

The combination of (a) materials which meet these requirements, (b) multiple teachers, and (c) a token exchange system creates a new kind of educational setting where children learn more rapidly--*and enjoy it.* Following an initial emphasis on the development of social and classroom skills, the core subjects of reading, mathematics, and handwriting are stressed in Behavior Analysis classes. Instruction in these areas begins during the child's first year in the program (Head Start or Kindergarten). There is no longer any doubt that children of four and five are willing and able to learn these subjects when they are presented in small group and individual situations, supported by effective reinforcement.

THE DAILY SCHEDULE

The daily schedule of a Behavior Analysis classroom can be described in three parts:

1. *planning*
2. *formal instruction*
3. *special activities, or back-ups*

Twenty-five to thirty children at different performance levels and four adults make a complex organization which must be carefully managed if it is to be successful. To insure a smooth operation that is always ready to meet the changing needs of the children, a period is set aside each day for staff planning. Directed by the lead teacher, these sessions allow the classroom team to discuss specific strategies to be used with

particular children, new or problematic sections of the curriculum, revisions in classroom routine, and back-up activities.

The specific lesson plan for any given day is *always determined by the progress of the children.* In general, however, the three core subjects are all taught during each instructional period. By providing at least three periods during the day, each child receives instruction in every subject.

Every instructional period is planned in conjunction with the back-up activity which will follow. At the beginning of a year there is frequent alternation between instruction (earning periods) and special back-ups (exchange periods). Ten to fifteen minutes of instruction, followed by twenty to twenty-five minutes of exchange activity, followed by another fifteen minutes of instruction, etc., is a common pattern. As the children become more skillful, the amount of study time increases, and the end of the year may find a schedule which provides for 45-50 minutes of study for each ten to fifteen minutes of special activity. At the second or third grade level it is not unusual for twenty minutes of *contingent* special activity to support an entire morning's work.

DISCIPLINE

When appropriate behavior has the immediate consequence of providing greater access to activities and events of value to the child, low motivation and other factors which contribute to behavior problems are usually eliminated.

Behavior Analysis uses positive reinforcement to build improved student behavior and seeks to eliminate all coercive or negative control procedures. Verbal or physical coercion or threats are not used, but the absence of these techniques should *not* be confused with permissiveness. Misbehavior cannot be tolerated in a classroom for it may accidently meet with reinforcement that will strengthen (teach) it.

Rather than nagging, scolding, or threatening punishment for inattention, the Behavior Analysis teacher first provides heavy reinforcement to another child who *is* attending to the assignment. Then, when the inattentive child starts to work, he is immediately praised by the teacher. The general strategy is to *ignore inappropriate behavior while providing heavy and frequent reinforcement for desirable behavior.*

Behavior which is potentially damaging or dangerous cannot be ignored. The procedure used in such circumstances is technically known as "Time-Out." Time-Out is accomplished without emotion, lectures, or scolding, but is consistently the *immediate* consequence of dangerous behavior. The child is immediately told what rule he has broken and then seated in a chair away from the other children. He remains there with a kitchen timer set for three minutes. As soon as the bell rings, the child returns to the group to be rewarded for his appropriate behaviors. His penalty is that for three minutes there has been no opportunity to engage in behavior that results in token reinforcement.

These are only two examples of procedures which correct unacceptable classroom behavior without the unwanted side-effects which are part of harsh, coercive punishment.

PROGRAM AND STAFF DEVELOPMENT

The full development of a Behavior Analysis program usually occurs in *three* phases. Initially, substantial support is provided by the University of Kansas. During this phase, the local school district provides an organizational base with a Program Coordinator and a Parent Coordinator. The Program Coordinator is responsibile for making the many elements of the project mesh together in a coherent program, and the Parent Coordinator introduces the program to the community and recruits parents to work in the classrooms. For the first year or two, advisors from the University of Kansas provide necessary training in the procedures and techniques of the program. Workshops at Regional Training Centers, District Workshops, and an inservice course in the Principles of Behavior Analysis are among the procedures used to supplement and support program implementation.

During the second phase of the program, local leadership reduces the district's need for strong support from the University of Kansas. As the project grows in size, local Staff Training Coordinators assume more and more of the training and support responsibility. Staff Training Coordinators and Parent Training Coordinators are the local experts in the methods and procedures of Behavior Analysis; and they are skilled in teaching this to other teachers, aides, and parents. People who fill these positions are generally drawn from the group of Behavior Analysis teachers and parents who have had classroom experience in the program.

The third phase of the program generally begins as the first group of children complete the third grade. By this time, local training staff, experienced teachers, aides, and parents are able to continue the program and extend its benefits to children in other parts of the school system. From this point on, only periodic consulting by the University of Kansas is needed to maintain the vitality and progress of the program.

BEHAVIOR ANALYSIS IN HEAD START

The basic ingredients and strategies of Behavior Analysis are as relevent in Head Start as in elementary classrooms. Four cooperating adults use carefully timed and frequent reinforcement to accelerate the children's progress toward clearly stated instructional objectives.

The curriculum used in Head Start is designed to teach the skills needed to succeed in the elementary grades whether the child continues in a Behavior Analysis program or not. By the end of the year, Behavior Analysis Head Start children work in pre-reading, mathematics, and handwriting groups, although a variety of preacademic behaviors are emphasized during the first half of the year.

Positive and systematic reinforcement is used to teach the entire constellation of behaviors which make up the social role of the student. From the beginning of the year, teachers reinforce a child immediately and enthusiastically for following simple directions in all situations where instructions are used. Children who say "Good morning" to their

teacher, who raise their hands when appropriate, who can distinguish between the time to talk and the time to listen, who can stay with an assigned task and who respond appropriately to the praise and compliments of the teachers, have an advantage in mastering the school situation. These skills can be clearly analyzed and effectively taught as a background to more formal academic lessons.

The unfortunate assumption that Head Start children are not "ready" for formal instruction is no longer true. When lessons are correctly presented and responses result in *positive reinforcement*, the Head Start child quickly learns the excitement and enjoyment of reading and mathematics.

EVALUATION

Continuing evaluation of student progress is the guide to program development. During the opening year of a project, this evaluation is provided by the University of Kansas. Gradually, *all* evaluation procedures are taken over by the lead teacher in each classroom or by Staff Training Coordinators.

Straightforward procedures allow a teacher to adjust the allocation of her instructional periods to meet the changing needs of the students, and Individual Progress Records chart the advances of every child in the class. Easily kept, these records provide continuing feedback which the teacher can use to assess the appropriateness of her classroom organiza-

tion, to modify her procedures, and to adjust quickly to the needs of any child whose progress is lagging.

Video tapes of small group lessons, coupled with clear definitions of appropriate and inappropriate teaching behaviors, allow each teacher to alter her techniques so as to maximize the progress of every child. Special training is given to Staff Training Coordinators to help them give personal coaching to teachers as they view their own video tapes.

In addition to the large array of internal evaluation and feedback procedures, the usual range of achievement tests and class records permit each project to be clearly *accountable to the community* which it serves.

APPENDIX C

A TOKEN MANUAL FOR BEHAVIOR ANALYSIS CLASSROOMS

Introduction

This manual is to help you teach in a Behavior Analysis classroom. The Behavior Analysis program emphasizes the use of positive reinforcement, or rewards, in teaching children; and it also makes it possible for the child, the learner, to be responsible for the consequences of his own behavior. These two things, positive reinforcement and responsibility, come together in a set of procedures called The Token System.

We now know that children do better work and learn more if their good behavior is praised and rewarded *immediately*. Consequently, a major objective in creating an effective classroom learning situation is to design procedures that will allow the teachers to give immediate praise and reinforcement to the children's good behaviors. There are many things in the classroom which can be used as incentives or reinforcers. Some examples include: the attention and approval of the teachers, the chance to play with a favorite toy, being with other children on the playground, listening to a story, and reading a favorite book.

These incentives will improve or strengthen a particular good behavior if they are presented *immediately* after that behavior occurs. This presents a problem. No classroom could operate with a system which sent a child out to play immediately after each correct answer or cooperative act. The solution is the token system. A token can be delivered quickly (immediately after a good behavior); it does not interrupt what the child is doing; and it can be exchanged later for any and all of the enjoyable things listed above.

A token can be any object, but during the early grades it is best if the token is an object which the child can hold and put in his pocket. It might be a match stick, a marble, a cardboard disc, or a plastic poker chip. No matter what it looks like, giving a child a token always says "YOU'RE DOING GOOD WORK. THANK YOU." The following pages describe how you can use the token system to improve the learning of the children in your classroom.

The token system is a teaching tool which is used in all Behavior Analysis classrooms because it:

1. MOTIVATES—gives the children an incentive and keeps them interested in their work.
2. REINFORCES—helps the children learn by increasing the amount of positive attention they get immediately, and
3. TEACHES INDEPENDENCE—gives the children the freedom to earn for themselves the opportunity to engage in their favorite activities.

There has been a great deal of scientific research on token systems during the past few years, but for our purposes the important point is simply that children learn better when their correct answers and other good behaviors are immediately reinforced.

Exchange Procedures

THE TOKEN SYSTEM IS AN EXCHANGE SYSTEM. You give the children tokens for the answers which you like (paying attention, working on an assignment, correct answers, helping, etc.) and the children give you tokens for things which they like (stories, games, recess, play materials, etc.). To keep the exchange going, Behavior Analysis classrooms have "earning" periods, followed by "spending" periods, followed by "earning," etc. throughout each day.

Giving Tokens

A GOOD TEACHER PAYS HIGH WAGES. Most of your time will be spent praising and rewarding the children for the good things they are doing.

YOU MUST KNOW WHAT EACH CHILD IS ABLE TO DO, so you can praise his individual improvements. You may give one child tokens for getting right answers to math problems while another child might earn tokens just for getting out his math book and opening it to the right page. What you give the tokens for depends on what you are trying to teach a particular child.

THE CHILDREN ARE NEVER IN COMPETITION WITH ONE ANOTHER FOR TOKENS. Each child earns tokens for doing things which are good for *him* regardless of what other children may be doing.

PRAISE WHAT THE CHILD HAS JUST DONE, each time you give a token. "THAT'S GOOD WRITING, TIMMY. NOW DO THE NEXT ROW JUST AS WELL." There is no need to mention the token at all. Just present it as you tell the child that he is doing what you like. "THANK YOU FOR LISTENING SO CAREFULLY, SALLIE." "I LIKE THE WAY YOU PUT YOUR BOOK AWAY WHEN YOU WERE THROUGH WITH IT, DAN." "THAT'S RIGHT, CHARLES, GOOD WORK." Try to use the child's name when you praise his good work.

GIVE TOKENS AND PRAISE IMMEDIATELY. Giving a token and praising a child *immediately* after he has put his materials away will help him much more than, "I LIKE THE WAY YOU PUT YOUR THINGS AWAY LAST PERIOD." Last period is too long ago, even if it is only 15 minutes ago.

EACH CHILD SHOULD EARN TOKENS EVERY PERIOD. The tokens cannot work unless the children receive them and have the opportunity to exchange them. If you are working with a group of six children during a handwriting lesson, you may give tokens to some of them for getting a whole row correct and you may give tokens to another because he got just one letter. Even though different children will earn for different things, all of them must have the opportunity to earn similar amounts. This means you will have to give each child enough of your help and attention to permit him to earn what he is capable of earning.

Exchanging Tokens

EVERY CHILD SHOULD BE ABLE TO EXCHANGE his tokens for something during every spending period under most circumstances. There need to be several different items or activities available, at different prices, during each spending period. Children with a larger number of tokens will be able to exchange them for more expensive items, but there will also be less expensive items available for children with fewer tokens. Sometimes different amounts of a single activity can be exchanged for different amounts of tokens. For example, each minute of free play may cost one token. Some children will want to exchange ten of their tokens for ten minutes of free play, and others will only have enough for, or want, five minutes.

SETTING PRICES is easier if you decide in advance how many responses you want a child to make during the earning period just before the exchange. If you want each child you are working with to complete at least six

arithmetic problems during the earning period, you will probably set the prices of exchange activities between 4 and 8 tokens. These prices should allow children who complete an average amount of work to exchange for moderately attractive items and those who do better work will be able to exchange for more expensive activities. You will want to be careful that some children are not always limited to exchanging for the lowest priced items. If you see this happening you will want to spend extra time helping that child so he will progress faster and have the opportunity to exchange for more valuable events.

THE PRICE OF AN ITEM OR EVENT should reflect how important it is to the children. Prices will vary from time to time, but during one exchange period, blocks may cost 5 tokens, listening to a story may cost 10, and painting a picture to take home may cost 15. To decide how much any given activity is worth to the children you will need to watch the children very closely and listen to what they say about things they want to do. The teacher's job during the spending period is to make sure that the things which the children want are available. If you are not sure whether one item is more valuable to the children than another, try them both out. During one spending period, for example, you may make blocks and a story each worth 5 tokens. If, when both have the same price, most of the children choose the story, you may want to raise the price of the story to 7 and lower the price of the blocks to 4.

VARY THE PRICES AND THE ACTIVITIES. Changing the prices and the kinds of activities which the children can earn adds interest to the entire exchange process and prevents the system from becoming a dull routine. If recess is always at 10:30 and always costs 10 tokens, the children will soon develop a pattern of working only until they have earned their 10 tokens and then they will quit (even if it is only 10:00). To avoid this, and to make the whole system more exciting, arrange for recess to cost 8 on some days, and 10 or 11 on others. Sometimes it will be at 10:30, sometimes at 10:15, and sometimes at 10:35. With this kind of changing system the only way the children can be sure they will be able to exchange for recess no matter when it comes or how much it costs is to work steadily throughout the earning period.

This is one of the places that a kitchen timer comes in handy. At the beginning of an earning period, you might set the timer for 20 minutes. When the bell rings you can announce what activities the children may spend for and how much each costs. There is no need to announce either of these things until the bell rings and you are ready to exchange. Earlier announcements can, once again, lead to the problem of a child earning just enough to buy what he wants and then quitting.

Some children may not want to exchange their tokens for activities at every spending time. Under the free-choice procedure of the token system, *that's up to them!* Don't urge, coax, or force them to exchange. If your system is working properly, there will be something later in the day that they will want to exchange for.

Helpful Accessories

TOKEN APRONS. In the early grades, children do not spend much time working at a desk. They move around the class a lot and usually do seat work at tables with four or five other

children. Because of the activity in a Behavior Analysis classroom, you will usually see all the children and teachers wearing aprons similar to a carpenter's apron. The aprons protect the children's clothing, and the pockets provide a handy place for tokens no matter what the child is doing or where he is in the classroom. The teachers' apron pockets hold a large number of tokens so they can be easily and quickly given out whenever appropriate. Each child's name is printed on an iron-on tape label on the front of the apron. This helps new parents in the classroom learn who the children are and is a reminder to use the child's name when praising him for his good work.

TICKETS. Tokens are a bridge between the good behavior of a child and some child-selected reward which will strengthen or reinforce that good behavior. Tokens can be delivered immediately, even if such events as recess and stories cannot. It sometimes helps the mechanics of the exchange if a second bridge, a ticket is used. You may, for example, want to sell a special game on the playground as a bonus activity during recess. Rather than have the children wear their aprons out to play where they may lose the tokens, you can sell a ticket to the game before the children go out. When the game begins, you can collect the tickets from the children who bought them and not have to worry about counting out the necessary number of tokens outside the classroom.

There are also some occasions where a very special event requires several earning periods. A trip to the zoo might be a case where you will want to set a single, and rather high price. This is an exception to the rule of not announcing the price of an event in advance. It is very unusual and should be saved for special activities, but you and the other teachers may decide that a zoo ticket will cost 20 tokens and can be purchased anytime before noon on Friday. At the end of each day during the week before the trip, the children can turn in their tokens in exchange for check marks on a chart. Twenty check marks can be exchanged for the zoo ticket on Friday, which is then collected just as everybody is ready to leave.

START EACH DAY FRESH. Your schedule will need to be arranged so that all the tokens a child earns during each day are spent during that same day. If there are tokens left in apron pockets at the end of a day, empty them out after the children have left so they will be ready to start with a clean slate the next day. If you find that several children have large numbers of tokens left at the end of the day, it may mean that you need more good spending activities for these children, or your prices are too low. If the children are allowed to save tokens from day to day, they may accumulate enough to spend an entire day without doing any of their lessons but participating in all the activities.

On-the-Job Problems

Other teachers have worked out effective solutions to some of the problems which can come up until the system is running smoothly.

IN THE MOUTH. Very young children occasionally put tokens in their mouth. The first step in correcting this is to make a rule which says: Tokens are kept in your pocket. Once the rule has been clearly stated, you can reinforce it by giving extra tokens as you say, "THANK YOU, SAMMY, FOR KEEPING THE TOKENS IN YOUR POCKET." Or, "I LIKE THE WAY YOU ARE KEEPING YOUR TOKENS IN YOUR POCKET, NANCY." If a child puts one in his mouth, simply remind him of the rule and take the token back. There is no need to lecture or scold. Simply repeating the rule and taking the token will soon make it clear that it is more profitable to keep them in a pocket. This is the only time when tokens should be taken away from a child.

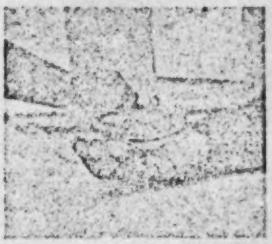
STEALING. Very rarely, teachers have encountered children who take other children's tokens. In a way this is a compliment to the teacher's system because it indicates that

she has really made the tokens important to the child. Nevertheless, since this can tend to reinforce stealing rather than earning, it must be stopped. One easy solution is to use a distinctive token for the offender. If you are using white tokens for the rest of the class, give blue tokens to the child who has been stealing. At trading time, he can only spend blue tokens; the white ones are not worth anything to him. Since there is nothing to be gained anymore by stealing other's tokens, it will soon stop.

If more than one child is stealing, you may need to check your entire system. It may be easier for the children to get tokens by stealing than by working. Are you giving assignments which are too difficult so it is impossible to earn tokens for completing them? Is the system moving too slowly (too much time between exchanges)? If this is the case you will modify the assignments so that the children are given work which is appropriate to their present skill. Are the tokens being left lying around because they are not important to some children? In this case you will need to find more exciting and valuable events for these children to earn. When a problem such as stealing develops in your exchange system, it is a hint that you need to examine the entire system and find a way to improve it. Don't blame the child for being bad. Improve the system so it will do a better job of teaching him to be good.

THE HAVE-NOT CHILD. At trading time, the lowest price on the menu is 4 tokens and you find two children have only 3. This may or may not be a problem. First, of course it is quite possible that these two children simply goofed off during the previous earning period. Do not scold or lecture them. They will just sit quietly during the spending period and not receive any of your attention. If it was just a problem of temporary laziness, you undoubtedly will see these children first in line to exchange their tokens when the next spending period comes along.

The have-not child may be telling you something about your system, however, so there are some specific things you need to watch. Is the child being asked to do something which is too difficult? This may be the problem if you see him sitting at his work, but he does not seem to know what to do, or he may be trying and getting wrong answers. In either case, there is no opportunity to give him tokens, and you will need to give him better materials to work with or give him some extra help.



Another possibility is that the things you are offering at spending time are not "important" to the child so he has stopped "caring" about earning tokens. This is sometimes indicated by a child who makes a few responses, gets a token or two, and then just dawdles and plays with them. Here, again, you must re-examine your system. You will need to make sure that you have exchange items and activities available which will be very reinforcing to this child. Remember, he is not wrong for not being interested. If the system is really going to be a balanced exchange, you must be absolutely sure that you are providing things at spending time which are really valuable to the children.

A final possibility is that the assignment is correct and the child is getting right answers but you were not paying enough attention to him, so he had no chance to get the tokens he should have. This, of course, you can correct immediately and is an important part of the system. It provides a gentle reminder for you to give your help and attention to *all* of the children.

Summary

As you can now see, the token system is a way of emphasizing the good things which the children are doing for you, and it provides tangible evidence of your approval. It sets

up a system where children do not have to be coaxed and urged to "Get Busy!", "Hurry Up!", and "Pay Attention!". They will work actively at their assignments because it is in their own best interest. In other words, you have set it up so they are working for themselves rather than just taking orders. Most of us prefer that kind of arrangement, and the children are certainly no different.

Tokens are always associated with positive events. When they are received they are accompanied with your praise and encouragement, and when they are spent it is in exchange for things the children value. The tokens are never associated in any way with negative or unpleasant events. You will never take tokens away from a child for misbehavior (except for "in the mouth" which is physically dangerous); there are no fines, no taxes, and no dues in a token system. Neither are they associated with any kind of pressure. You won't for example, say anything like, "Hurry up or you won't earn enough tokens for recess." However gentle you may be, that still is a threat, and tokens must never be associated with threats.

It is worth repeating that the whole concept of the token system is the concept of *positive reinforcement for good learning behavior*. If you have good items for trade, and vary the prices, times, and quality of these items, you can develop an exciting token system that will guarantee consistent high motivation for all of the children. For the child, your classroom can be the most fun place he knows because here he can earn the opportunity to do the things he likes best. If you can start a child off in school by teaching him that the classroom is a lively, interesting place where there is seldom any punishment and always a lot of excitement, then that child is going to get a much better education.

Suggestions to Remember

1. Give Lots of Tokens and Praise.

2. Give a Token for Good Behavior *Immediately.*

3. Never Talk about Tokens Except to Announce Exchange Prices.
   If a child asks for tokens or tries to bargain with you, pretend you didn't hear him and give your attention to another child who is working.

4. Ignore Behavior You Don't Like.

5. Start Each Day Fresh.
   Empty the tokens from all pockets at the end of each day so everyone starts each new day with a clean slate.

6. Never Take Tokens Away, Except When They are in a Child's Mouth.

7. Vary the Prices, Times, and Content of Spending Activities.

8. Provide as Many Activities for the Children to Choose Among as Possible.

9. Keep It Fun. Make It Exciting—For You and for the Children.

APPENDIX D

ADULT VERBAL CONTROL OF CHILDREN'S NONVERBAL BEHAVIOR

Adult Verbal Control of Children's Nonverbal Behavior[1]

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An adult's verbal behavior differentially controlled children's free play activities 22 or more hours later. Five children were given a trinket of their choice at the end of the day for playing with a specific preschool toy during free play. Use of the toy was only mentioned at the end of the day. A 17 day separation between the adult's verbal behavior and the children's free play activities did not disrupt this verbal control. When the toy was named, the nonverbal behavior of these Head Start, Negro children corresponded to the adult's verbal behavior. When the toy was not named (that is, the children were rewarded for playing with "it"), differential control of the children's nonverbal behavior was not achieved. These results indicated the discriminative stimulus properties of the adult's verbal behavior was a critical variable controlling the children's nonverbal play behavior. Subsequent procedures indicated the adult's verbal behavior would control the children's play behavior when correspondence was not required. This control was however weaker than when correspondence was required.

Teachers, parents, and therapists base much of their behavior on the assumption that what they say will affect what their listeners do. It is also assumed that this effect will be an enduring one. So courses are taught. It might be argued that therapists and teachers primarily change the verbal behavior of their clients and that a corresponding change in their clients' nonverbal behavior does not necessarily occur. Risley and Hart (1968) have demonstrated that this correspondence does not immediately occur when only the verbal behavior of preschool children concerning their corresponding nonverbal behavior is reinforced. Reinforcing the children's "saying" was subsequently sufficient to control their "doing". This study asked whether the children's "saying" was functionally necessary to a modification of their "doing" by investigating whether the children's "doing" would correspond to an adult's "saying".

Skinner(1957) based much of his theoretical analysis of verbal behavior on the assumption that any person's speech will affect his listeners. He further assumed that the discriminative stimulus properties of the speaker's behavior was a critical variable effecting the listener. This study evaluated those assumptions.

Method

Subjects and Setting

Five children, three girls and two boys, enrolled in the Parent Co-operative Preschool of the Juniper Gardens Children's Project in Kansas City, Kansas (cf. Risley, 1968) served. All were 4- to 5-year-old Negroes from large families with low incomes.

Procedure

Nonverbal Behavior: All sessions were conducted from 8:45 to 9:00 A.M. prior to the formal classroom activities of the preschool. Sessions were conducted every day the preschool was in session providing at least four of the children were present. Only at this time were the children permitted to play with these toys: Lincoln logs, nesting toys (Willy in the Fruit), rag dolls, cars, and beads. The position of the toys was randomly varied before each session.

An observer continuously recorded the toys played with by each of the children and the sequence with which each toy was played. "Played with" was defined as manipulation of a toy for more than 5 seconds. So, for example, moving a toy aside or sitting on a toy was not counted.

Verbal Behavior-Toy Named: Just prior to the end of the preschool day (at 11:30 A.M.) the children came to the preschool office which was a setting different from the free play setting. Following an initial baseline condition, each child was told the following: "That was very good _____(child's name), you played with the _____(name of toy)." One toy was chosen at each condition and only those children who had

played with that toy were told the preceding. These children also selected a trinket of their choice from the preschool store and were given a few M&Ms. Nothing was said to the other children who had not played with the particular toy except that all children were told,"Thank you, see you tomorrow."

Results

Response Reliability

A second person independently observed the children's play at least once during each condition. Out of the possible 280 disagreements,the observers differed twice. A disagreement could occur whenever both observers did not both note any of the children playing with any of the toys or when they differed regarding the sequence with which each toy was played. For example, if all 5 children were present when reliability was assessed, then there were a possible 25 disagreements since the children could play with any or all of the 5 toys.

The adult's verbal behavior was observed by a second person who made a complete written transcript of what was said to each child. This transcript corresponded perfectly with the statement listed under Verbal Behavior above.

Baseline

For the first seven sessions the children played with the toys with no instructions from the adult. They did not meet with the adult at the end of the preschool day.

Figure 1 (~~slide 3~~) presents the percent of children who played with each toy across sessions. Percent of children playing with a toy was used as the dependent variable because of occasional absences. It can be seen that the percent of children playing with each toy remained relatively constant across sessions. Generally logs were most often

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played with and dolls least often - with fruit, cars, and beads played with by about half of the children.

Reinforcement

Toy Named: Following session 7 the children gathered together at the end of the preschool day and the procedures outlined above under Verbal Behavior were instituted. Only one child had played with the fruit that day and so he was told he had played with the fruit and was offered his choice of a trinket from the "store". Within two sessions all children were playing with the fruit and all continued playing with the fruit throughout the condition. A 17 day break between sessions 11 and 12 due to the Christmas holidays did not affect the children's play with the fruit.

The one child who had played with the cars on session 12 was reinforced at the end of the day. The usage of cars gradually increased so that on session 18 and until the end of the condition, all children played with the cars. As

the children's play with cars increased, the children's play with fruit decreased to its baseline level. With the exception of logs, reinforcing play with one toy did not alter play with the other toys. Logs were consistently played with by all of the children except when all of the children played with the fruit. At that time, the average use of logs by the children dropped to 61%.

Toy Not Named: Following session 21, the one child who had played with the beads was reinforced at the end of the day. The general format outlined under Verbal Behavior was continued but the adult did not name the toy and said "it" instead. This procedure assessed whether the adult's speech served as a discriminative stimulus for the children's play with the particular toy which was named. Figure 1 clearly shows there was no differential effect of the adult's speech upon the children's play behavior when the toy was not named. In fact, during two sessions none of the children played with the beads. This necessitated changing the adult's verbal behavior to :"No one played with it. See you tomorrow." During these sessions the store was also visible to the children but no reinforcements were given. This procedure was then repeatedfor fruit. The adult's verbal behavior clearly had no affect when fruit was not named, for on six of the seven sessions no one played with it.

After session 35 the adult said "No one played with the fruit. See you tomorrow." Naming the toy produced an immediate and generally sustained increase in the percent of children playing with fruit. The children continued playing with the toy which was last named throughout both "not named" conditions. The percent of children playing with cars only decreased to baseline levels after another toy was explicitly named.

On day 50 the children were told "No one played with the beads. See you tomorrow." As with fruit all of the children began playing with the beads and play with fruit returned to its baseline level.

After session 54 correspondence between the adult's "saying" and the children's "doing" was not required. Each child was told he had played with the dolls and was given a trinket of his or her choice from the preschool store. Saying did somewhat control the children's doing, however the extent of this control was not as strong as when correspondence was required. In no instance did the two boys play with the dolls.

Discussion

The present results indicate children's nonverbal play behavior may be modified by the combination of an adult's verbal specification of the toy which is reinforced and

the reinforcement for playing with that toy. It is therefore clear that the children's "saying" was probably not functionally necessary to a modification of their "doing" in the Risley and Hart (1968) study.

The absence of differential control of the children's nonverbal behavior only when the adult did not name the specific toy which was reinforced suggests that discriminative stimulus properties of the adult's speech were a critical variable in controlling the children's nonverbal behavior. These results support Skinner's (1957) analysis of the discriminative stimulus properties of verbal behavior.

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Footnote

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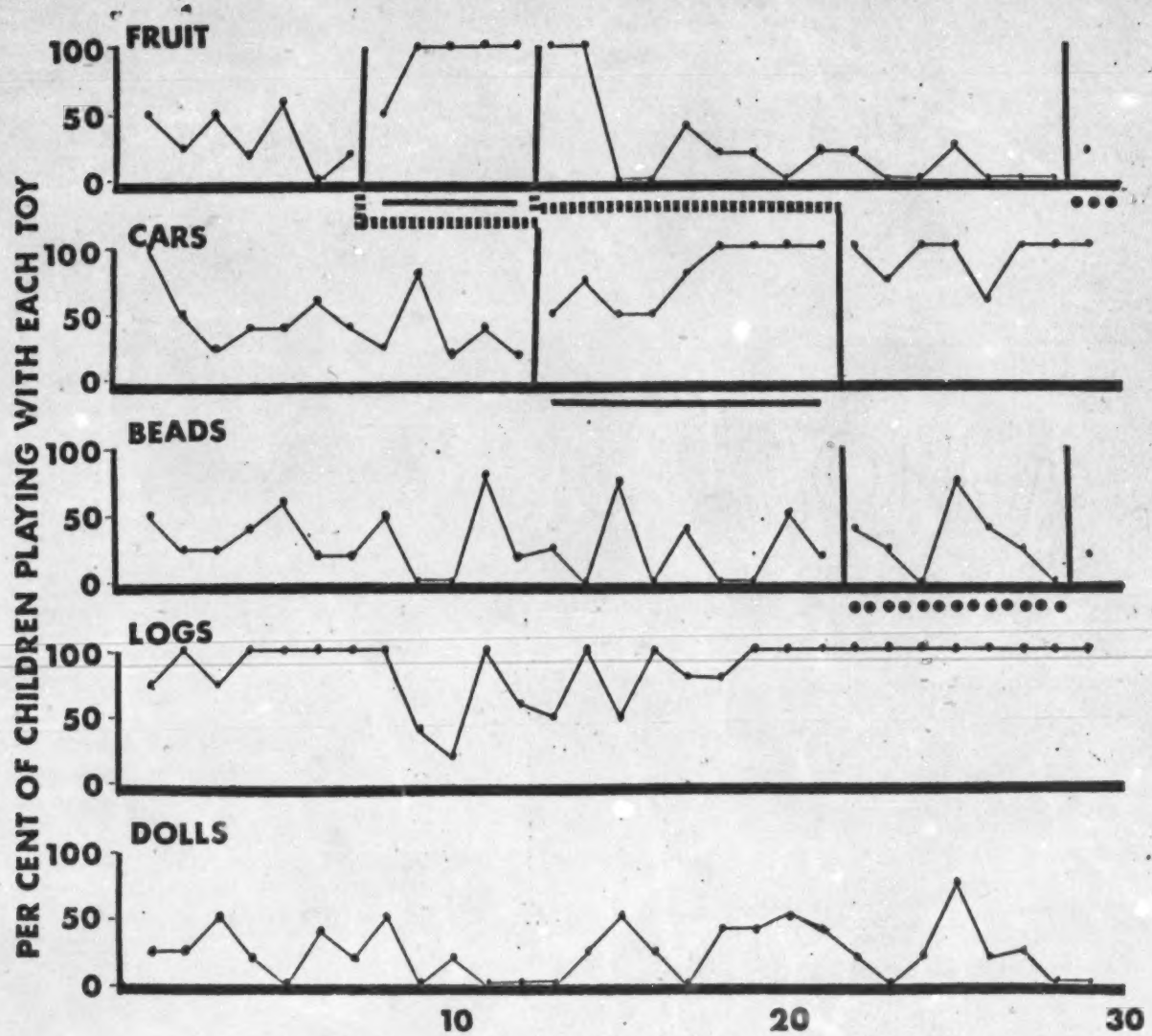
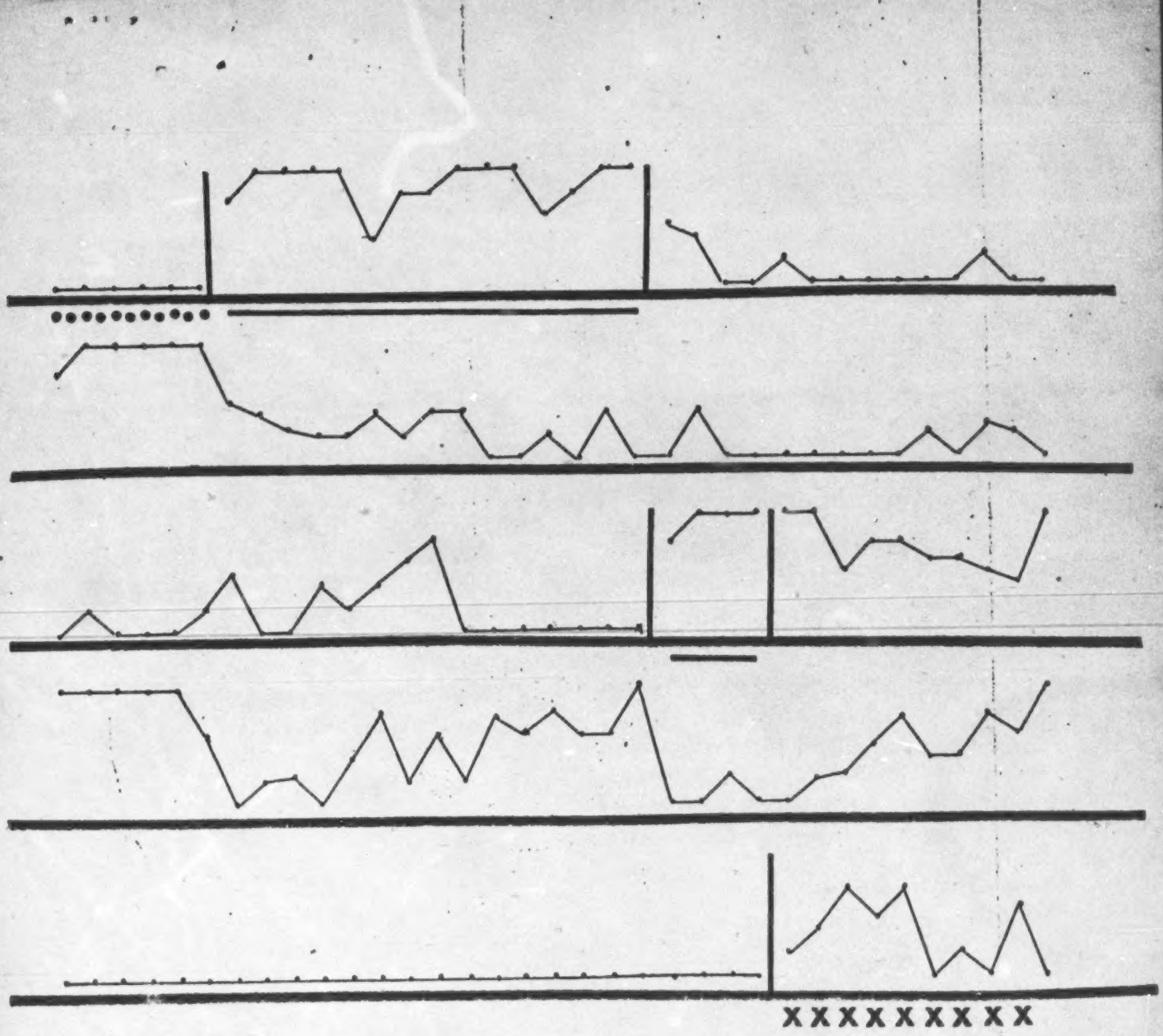

FRUIT
CARS
BEADS
LOGS
DOLLS
100
50
0
PER CENT OF CHILDREN PLAYING WITH EACH TOY
10
20
30
NO. OF SESSIONS
—TOY NAMED ····TOY NOT NAMED



xxx NO CORRESPONDENCE

Figure 1 continued